

## Sequence IVB Matrix Update

23 of the 29 tests have been reported to the TMC. The data is posted at:

<http://www.astmtmc.cmu.edu/ftp/refdata/gas/ivb/data/>

The field COM4 will identify the test as a precision matrix test with a value of "MATRIX2".

Oils: 300 (5W-30), 1011 (0W-16), 1012(5W-20)

Test length: 200 h /~9 days

Estimated matrix completion: 12/16/17

If there are any questions please let me know.

Best regards,  
Rich

Rich Grundza

<http://www.astmtmc.cmu.edu/ftp/docs/gas/gf6matrix/StatusReports/IVB/20171222IVBMatrixStatus.pdf>

| Run order | B1-1               | B1-2               | B1-3                                   | A-1                | A-2                | F-1                | G-1                | E-1  |
|-----------|--------------------|--------------------|--|--------------------|--------------------|--------------------|--------------------|------|
| 1         | 1012<br>127173-IVB | 300<br>129759-IVB  | 1011<br>125879-IVB                     | 300<br>129752-IVB  | 1012<br>125882-IVB | 1012<br>125183-IVB | 1012<br>130944-IVB | 300  |
| 2         | 1011<br>129762-IVB | 1012<br>129766-IVB | 1012<br>129767-IVB                     | 1011<br>109201-IVB | 300<br>130948-IVB  | 300<br>120739-IVB  | 1011<br>125184-IVB | 1011 |
| 3         | 300<br>129760-IVB  | 1011<br>129763-IVB | 300<br>129761-IVB<br>300<br>130939-IVB | 1012<br>129755-IVB | 1011<br>125880-IVB | 1012<br>130945-IVB | 1011<br>130943-IVB | 300  |
| 4         | 1012<br>129768-IVB | 300<br>130938-IVB  | 1011<br>129764-IVB                     | 300<br>131277-IVB  | 1012<br>129756-IVB |                    |                    |      |
| Reported  |                    |                    | Invalid                                |                    |                    |                    |                    |      |

| TMC Oil    | TestKey    | Lab/Stand | Average Lifter Volume Loss by Keyence*, mm <sup>3</sup> |                 | Camshaft Lobe Failure | Fuel Dilution @EOT, % | Used Oil FE@EOT, mg/kg | EOT Oil Con., g | Engine Hours | EOT Water by KF, mg/kg | Comment  |
|------------|------------|-----------|---|-----------------|-----------------------|-----------------------|------------------------|-----------------|--------------|------------------------|--|
|            |            |           | Intake  | Exhaust         |                       |                       |                        |                 |              |                        |  |
| 300        | 129759-IVB | B1-2      | 1.78  | 1.39            | N                     | 17.8                  | 275                    | 259             | 254          | 2068                   |  |
|            | 129752-IVB | A-1       | 1.95  | 1.39            | N                     | 7.7                   | 223                    | 72              | 252          | 1637                   |  |
|            | 131277-IVB | A-1       | 2.06  | 0.8             | N                     | 7.6                   | 165                    | 68              | 852          | 1728                   |  |
|            | 130948-IVB | A-2       | 1.27  | 0.72            | N                     | 7.0                   | 109                    | 311             | 452          | 1926                   |  |
|            | 129761-IVB | B1-3      | 1.12  | 0.75            | Y                     | 15                    | 145                    | -19             | 627          | 1988                   | Invalid due to lobe Failure, test to be re-run |
|            | 129760-IVB | B1-1      | 2.1   | 1.15            | N                     | 12.2                  | 184                    | 80              | 658          | 1987                   |  |
|            | 130938-IVB | B1-2      | 3.05  | 1.59            | N                     | 9.4                   | 362                    | 399             | 860          | 2347                   |  |
| 1011       | 125879-IVB | B1-3      | 1.8   | 1.27            | N                     | 12.8                  | 161                    | 343             | 254          | 2297                   |  |
|            | 129762-IVB | B1-1      | 2.05  | 1.32            | N                     | 12.9                  | 195                    | 359             | 456          | 2428                   |  |
|            | 109201-IVB | A-1       | 1.09  | 0.84            | N                     | 7.2                   | 116                    | 167             | 452          | 1516                   |  |
|            | 125880-IVB | A-2       | 0.93  | 0.57            | N                     | 7.1                   | 113                    | 61              | 652          | 1826                   |  |
|            | 129763-IVB | B-2       | 1.98  | 1.15            | N                     | 12.0                  | 269                    | 460             | 658          | 2241                   |  |
|            | 130943-IVB | G-1       | 2.03  | 1.1             | N                     | 8.6                   | 186                    | 166             | 660          | 1964                   |  |
|            | 125184-IVB | G-1       | 1.84  | 0.93            | N                     | 6.5                   | 154                    | 48              | 458          | 2040                   |  |
| 1012       | 127173-IVB | B1-1      | 1.55  | 1.19            | N                     | 14.3                  | 156                    | 428             | 254          | 2363                   |  |
|            | 129766-IVB | B1-2      | 1.70  | 1.02            | N                     | 12.2                  | 171                    | 145             | 456          | 2267                   |  |
|            | 129767-IVB | B1-3      | 0.82  | 0.99            | N                     | 12.1                  | 111                    | -44             | 456          | 2371                   |  |
|            | 125882-IVB | A-1       | 0.71  | 0.66            | N                     | 7.4                   | 74                     | 348             | 252          | 1979                   |  |
|            | 125183-IVB | F-1       | 1.73  | 1.2             | N                     | NR <sup>A</sup>       | NR <sup>A</sup>        | 889             | 202          | NR <sup>A</sup>        |  |
|            | 130944-IVB | G-1       | 1.81  | NR <sup>A</sup> | N                     | 5.4                   | 212                    | 826             | 254          | 2380                   |  |
|            | 129756-IVB | A-2       | 1.1   | 0.85            | N                     | 8.2                   | 138                    | 130             | 852          | 2266                   |  |
|            | 127955-IVB | A-1       | 1.55  | 0.67            | N                     | 7.4                   | 105                    | 160             | 652          | 2098                   |  |
| 129768-IVB | B1-1       | 1.42      | 0.9   | N               | 9.9                   | 141                   | 241                    | 860             | 2012         |                        |  |

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<sup>A</sup> Not Reported

\*with